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To the United States Patent and Trademark Office

Serial Number: 09/902,227
Appl.. Filed: 11th of July 2001
Applicants: Roger D. **Hersch,** Bernard **Wittwer**
Appn. Title: **Method and computing system for creating and displaying images with animated microstructures**

Examiner/GAU: Dennis Rosario-Vasquez /2621

Lausanne, July 30, 2004

Amendment

Commissioner for Patents
P.O.Box 1450
Alexandria, Virginia 22313-1450

Sir:

Applicants acknowledge receipt of the Office Action dated 19th of June 2004 and note the Examiner's rejections and comments made therein. Applicants come now to amend the application and provide comments in response to the Examer's Action.

Two examples of images with animated microstructures are available on the Web at the URL http://lsppc60.epfl.ch/rdhxfer/anim1/ and at URL http://lsppc60.epfl.ch/rdhxfer/anim2/ . These examples have been shown to the Examiner, M. Dennis Rosario-Vasquez, during an informal telephone communication on July 28, 2004.

In their comments, applicants state that the "microstructure" as described in their patent application can neither be assimilated to "a mesh of triangles" (van Beek), nor to "cells" of a dithered frame (Judice). The microstructure represents a clearly visible element, such as "a text, a logo, a symbol, an ornament or any other kind of visual motive" (see applicant's application). Applicants therefore amend their independent claims in that sense.

Applicants hope this answer traverses each and every rejection set forth in the above identified Office Action, placing the updated claims in condition for immediate allowance.

Attached are the detailed comments as well as an updated version of the claims.

Very respectfully,

The applicants

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Attached: - Detailed comments regarding the office action
- New listing of claims with the amended claims

Detailed comments regarding the Office Action

Specification

1. This correction was carried out by our reply October 18th, 2001 and confirmed by the attached updated filing receipt, confirmation number 7585, mailed 11/28/2001 by the US PTO.

Claims rejections – 35 USC § 102

3. Rejection of claims 1 and 2 by considering van Beek (US 6,047,088)

The animated microstructure cannot be considered to be a mesh of trianges for the following reasons:

a) The mesh of triangles is used to map a texture into a surface (column 1, line 38 van Beek). In the resulting target image, the mesh of triangles is not visible. In contrast, in our invention, the microstructure represents a clearly visible motive, such as "text, a logo, a symbol, an ornament" (see detailed description of the invention, see also the images in FIG. 6 of our application, where the microstructure represents the text "GET READY"). Our invention therefore incorporates information at two independent levels: the global image level and the microstructure level.

b) According to van Beek, the mesh of triangles changes its shape to generate an animated image with a shape changing over time, for example a "waving flag" (column 1, lines 40-41, and FIG. 2). In our application however, the image may remain static and only the microstruture is animated (see our FIG. 6, where all images have same rectangular layout and where only the microstructure is modified from one image to the next), i.e. "the microstructure evolves over the succession of target image instances", as mentioned in our claim 1.

In addition, the goal of the method of van Beek, i.e. rendering an animated image, is completely different from the goal of our invention, where the image may remain static and only the (visible) microstructure is animated. We provide however a generalization to image animations, where both the image is animated (successive frames are slightly different global images) and the microstructure is animated.

The two inventions are therefore completely distinct and claims 1, 2 as well as the claims depending on claim 1 of our invention should be allowed.

4. Rejection of claims 24 to 33 as being anticipated by Judice (US Patent 3, 937,878)

The "cells" of the dithered frames (Judice, FIG. 3)) which are energized or de-energized are not identical to our "microstructure". These "cells" are simply pixels which can be set on or off. All pixels together form an image (Judice, FIG. 4). In contrast to Judice's cells, our microstructure represents a clearly visible motive, such as "text, a logo, a symbol, an ornament" (see detailed description of the invention, see also the images in FIG. 6 of our application, where the microstructure represents the text "GET READY"). Judice's patent does not contain any perceivable microstructure: this can be verified by comparing Judice's dither threshold values (FIG. 2 in Judice's patent) with the dither threshold values present in our dither matrices (FIG. 1B in our application). Clearly, in our invention, the succession of dither threshold values defines the microstructure, e.g. in FIG. 1B, the letter "G". Such a microstructure capable of representing letters or text is absent from Judice's patent.

In addition, the goal of the method of Judice, i.e. rendering an animation on "slow access rate display panels" (column 1, line 65), is completely different from the goal of our invention, which aims at generating static (or as an extension animated) images with an animated microstructure containing its own, separate information (e.g. a text).

The two inventions are therefore completely distinct and claims 24 to 33 of our invention should be allowed.

6, 7, 8. Rejection of claims 3-10, 12 and 13:
These claims depend on claim 1 and should therefore be allowed (see section 3 above).

Rejection of claims 14 and its dependent claims 15-19,
Since the microstructure cannot not be assimilated to a triangle mesh (see section 3 above), these claims should be allowed.

Rejection of claim 20 and its dependent claims 21-30: same argumentation as in sections 3 and 4 above. These claims should be allowed.

8. Rejection of claim 11
Here our microstructure is assimilated to the "animated texture" in van Beek's patent. However, in van Beek's patent the animated texture is created to render an animated image, i.e. the animated image could not exist without the animated texture. In our invention, the microstructure carries a message of its own which is completely independent of the global image. Therefore, the analogy with van Beek's patent is not valid. Meyer (US Pat 6,272,650) mentions the display of a logo on the Internet, however such a logo has nothing in common with an image comprising an animated microstructure, for example a moving logo (see our demonstration http://lsppc60.epfl.ch/rdhxfer/anim1/). Knowing van Beek's patent and Meyer's patent would clearly not allow to create images with animated microstructures. Therefore claim 11 should be allowed.

9 Rejection of claims 34 to 43

Since Judice's cells are cannot be assimilated to our microstructure (see section 4 above), Judice's system does not teach anything about a computer system capable of displaying a target image with embedded microstructure evolving over time. Wang (US patent 6,389,075) teaches about a system for displaying MPEG animations on the Web, however he does not mention any kind of embedded microstructure, since an "animation window" (Wang, FIG. 2, Num. 53) is completely different from an animated microstructure.

Therefore, claims 34, 35, 36 and the remaining similar or dependent claims 37-43 should be allowed.

Conclusions

The examiner did not explicitely reject claims 31, 32, 33. They should also be allowed.

Regarding all other claims, the applicants were able to traverse all objections of the examiner. Therefore, all claims should be allowed. However, in order to better characterize the specificity of the present invention, the applicants provide a set of slightly modified independent claims, where it is clearly specified that the microstructure represents a text, a logo, a symbol, an ornament or any other kind of visual motive.